

WHAT IS CLAIMED IS:

1. (Currently amended) A drive system comprising at least one vibrating motor having at least one vibration generator each as well as at least one resonator each and a device that is driven by the at least one motor, the resonator having a contact area that cooperates with a driven surface of the device to drive said device along a path with the path and driven surface extending along one of a straight or curved axis, at least one of the resonator contact area and the device surface having a surface profile configured to guide the device along the path and contacting the other of the resonator contact area and device surface by having side surfaces located on opposing sides of the path with each side surface in contact with the device to keep the device between the side surfaces and on the path, with the driven element rotating about an axis passing through that portion of the two planes that each contain one of the side surface when the path is curved, and with the driven element translating along an axis that does not pass through those portions of the planes when the path is straight.
2. (Previously Presented) The drive system of Claim 1, wherein the vibrating generator is made of a piezoelectric material.
3. (Previously Presented) The drive system of Claim 2, wherein the contact area comprises an indentation or protrusion and the driven surface is of a different hardness and the contact area is shaped by wear.
4. (Previously Presented) The drive system of Claim 2, wherein the device surface driven by the contact area has a profile comprising a protruding curved surface on an outer periphery of a rotating part with the side surfaces located on opposing sides of the protruding curved surface.
5. (Previously Presented) The drive system of Claim 2, wherein the device surface driven by the contact area has a profile comprising an indentation produced by wear.
6. (Previously Presented) The drive system of Claim 2, wherein the contact area on the resonator is made of a softer material than the driven surface.
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)

10. (Previously Presented) The drive system of Claim 8, wherein the driven surface has a protruding curved cross-section and extends along at least a portion of a circular path.
11. (Previously Presented) The drive system of Claim 8, wherein the driven surface has a curved cross-section, and extends along a straight path.
12. (Previously Presented) The drive system of Claim 2 comprising at least two motors that are arranged in the same orientation to drive the driven element in the same direction.
13. (Previously Presented) The drive system of Claim 8, wherein the indentations or the protrusions have a respective depth or height of 0.5 – 3 mm.
14. (Previously Presented) The drive system of Claim 12, wherein the motors are urged against the driven device with respective forces that differ from each other.
15. (Previously Presented) The drive system of Claim 12, wherein the motors are controllable individually.
16. (Previously Presented) The drive system of Claim 12, wherein the motors are controllable in parallel.
17. (Previously Presented) The drive system of Claim 12, wherein the motors are operable at differing frequencies.
18. (Previously Presented) The drive system of Claim 12, wherein the motors each operate at differing amplitudes.
19. (Previously Presented) The drive system of Claim 12, wherein the motors move the driven device in two different directions.
20. (Previously Presented) The drive system of Claim 2, wherein the force of the generated motion is predetermined by the position of the driven device or the angle of the transducer relative to the driven device when the excitation to the motor remains the same.
21. (Previously Presented) A drive system comprising at least one vibrating motor having a vibration generator driving a resonator, the resonator having a contacting area engaging a driven surface of a driven element, one of the contacting area and driven surface having areas of different friction arranged to guide the driven element.

22. (Previously Presented) The drive system of Claim 21 wherein the driven surface comprises indentations or protrusions having a respective depth or height of about .05 – 10 mm.
23. (Previously Presented) The drive system of Claim 21 wherein one of the contacting surface and driven surface comprise regions with differing friction coefficients spaced apart at regular intervals.
24. (Previously Presented) The drive system of Claim 21 wherein the driven surface comprises indentations or protrusions spaced apart at regular intervals.
25. (Previously Presented) A drive system comprising at least one vibrating motor having a vibration generator driving a resonator, the resonator having a contacting area engaging a driven surface of a driven element to guide the driven element along one of a straight or circular path, one of the contacting area and driven surface being located on a protrusion located along sides of the path and extending into indentations formed in the other of the contacting area and driven surface an amount sufficient to guide the driven element relative to the resonator.
26. (Previously Presented) The drive system of Claim 25 wherein the driven surface comprises an indentation and the contacting surface comprises a protrusion with the protrusion having lateral sides contained within the indentation.
27. (Previously Presented) The drive system of Claim 25, wherein the driven surface comprises a protrusion having a cross-section with a curved surface at the driven surface and the contacting surface comprises an indentation.
28. (Previously Presented) The drive system of Claim 27, wherein the driven surface comprises a protrusion with a non-circular cross-section.
29. (Previously Presented) The drive system of Claim 25 wherein one of the driven surface and the contacting surface comprises a surface with multiple curves forming hills and valleys into which the protrusion is guided by contours of the multiple curves.
30. (Previously Presented) A drive system comprising at least one vibrating motor having at least one vibration generator each as well as at least one resonator each and a device that is driven by the at least one motor, the resonator having a contact area that cooperates with a surface of the device to drive said device, at least one of the

resonator contact area and the device surface having at least one of a surface texture or surface profile configured to guide the device, wherein the contact area on the resonator comprises regions with differing friction coefficients and wherein the generator is made of a piezoelectric material.

31. (Previously Presented) A drive system comprising at least one vibrating motor having at least one vibration generator each as well as at least one resonator each and a device that is driven by the at least one motor, the resonator having a contact area that cooperates with a surface of the device to drive said device, at least one of the resonator contact area and the device surface having at least one of a surface texture or surface profile configured to guide the device, wherein the surface driven by the contact area surface comprises regions with differing friction coefficients and wherein the generator is made of a piezoelectric material.
32. (Previously Presented) A drive system comprising at least one vibrating motor having at least one vibration generator each as well as at least one resonator each and a device that is driven by the at least one motor, the resonator having a contact area that cooperates with a surface of the device to drive said device, at least one of the resonator contact area and the device surface having at least one of a surface texture or surface profile configured to guide the device, wherein one of the surface driven by the contact area or the contact area comprise regions with differing friction coefficients.
33. (Previously Presented) A drive system comprising at least one vibrating motor having a vibration generator driving a resonator, the resonator having a contacting area engaging a driven surface of a driven element to move the driven element along a path, one of the contacting area and driven surface having areas of different friction located on opposing sides of the path and engaged by the other of the contacting area and driven surface.
34. (Previously Presented) The drive system of Claim 25 wherein the driven surface is of a harder material than the protrusion and the protrusion wears to conform to the shape of the driven surface.

35. (Previously Presented) The drive system of Claim 25 wherein the resonator is of a softer material than the driven surface and selected to wears to conform to the shape of the driven surface.
36. (Previously Presented) The drive system of Claim 25 wherein the path is straight and the contacting area has a cross section with a curved surface.
37. (Previously Presented) The drive system of Claim 25 wherein the path is circular and the contacting area has a cross section with a curved surface and the driven surface is shaped to conform with the contacting surface.
38. (Previously Presented) The drive system of Claim 25 wherein the resonator has a longitudinal axis which is in the same plane as the path.
39. (currently amended) A piezoelectric drive system, comprising:  
a piezoelectric vibration motor having a selected contacting portion to drivingly engage a driven element and to move it along one of a straight or curved path when an electric control signal is applied to the piezoelectric motor, and wherein the selected contacting portion comprises an indentation having side surfaces located on opposing sides of the path so that the selected contacting portion partially embraces the driven element and contacts the driven element on opposing sides of the path to keep the driven element between the side surfaces and on the path with the resonator having a longitudinal axis along which the major portion of resonator movement occurs and with the longitudinal axis aligning with the path at the contacting portion located between the opposing sides.
40. (Previously Presented) The piezoelectric drive system of claim 39, wherein the path is perpendicular to surface normals of the side surfaces at the locations where driven element contacts the side surfaces.
41. (Previously Presented) The piezoelectric drive system of claim 39, wherein the path is straight.
42. (Previously Presented) The piezoelectric drive system of claim 39, wherein the piezoelectric vibration motor comprises a piezoelectric element having a predominant axis that is parallel to the path.

43. (Previously Presented) The piezoelectric drive system of claim 39, wherein the piezoelectric vibration motor has an elongated shape and the selected contacting portion is located on one side of that elongated shape.
44. (Previously Presented) The piezoelectric drive system of claim 40, wherein the piezoelectric vibration motor has an elongated shape and the selected contacting portion is located on an edge of that elongated shape.
45. (Previously Presented) The piezoelectric drive system of claim 40, wherein at least one of the side surfaces of the indentation is a beveled surface inclined at an angle selected to place that side surface into flat engagement with the engaging surface of the driven element.
46. (Previously Presented) The piezoelectric drive system of claim 45, wherein the piezoelectric motor engages two driven elements.
47. (Previously Presented) The piezoelectric drive system of claim 46, wherein the driven element is resiliently urged against the piezoelectric motor by a spring.
48. (currently amended) A drive system, comprising:
  - at least one piezoelectric vibrating motor having a contact area that cooperates with a driven surface of a driven device to translate said device along a path,
  - one of the driven surface and contacting area having side surfaces located on opposing sides of the path to keep the device on the path, wherein the side surfaces comprise areas of different friction.
49. (Previously Presented) The drive system of Claim 48, wherein both the path and driven surface extend along one of a straight or curved axis.
50. (cancelled)
51. (Previously Presented) The drive system of Claim 49, wherein the path is straight and the motor extends along a longitudinal axis that is parallel to the path.
52. (Previously Presented) The drive system of Claim 1, wherein the contact area is on an edge of a portion of a resonator where the portion of a resonator extends along a longitudinal axis that is not parallel to the axis along the path.
53. (Previously Presented) The drive system of Claim 1, wherein the path is curved and the contact area is located on a portion of a resonator that resonator extends along a longitudinal axis that is inclined to the axis that extends along the path.

54. (Previously Presented) The drive system of Claim 1, wherein the path is straight and the contact area is on a portion of a resonator extending along a longitudinal axis that is parallel to the axis along the path.
55. (Previously Presented) The drive system of Claim 1, wherein the path is curved about a rotational axis and the side surfaces restrain movement of the driven element along that rotational axis.
56. (Previously Presented) The drive system of Claim 1, wherein the path is straight and the side surfaces restrain movement of the driven device along a direction that is in the plane of the path and perpendicular to the path.
57. (Previously Presented) The drive system of Claim 1, wherein there are two sets of side surfaces located on opposing sides of the driven device.
58. (Previously Presented) The drive system of Claim 39, wherein the path is curved about a rotational axis and the side surfaces restrain movement of the driven element along that axis.
59. (Previously Presented) The drive system of Claim 39, wherein the path is straight and the side surfaces restrain movement of the driven element along a direction that is in the plane of the path and perpendicular to the path.
60. (Previously Presented) The drive system of Claim 39, wherein there are two sets of side surfaces with each set located on opposing sides of the driven element.
61. (Previously Presented) The drive system of Claim 48, wherein the path is straight and the side surfaces restrain movement of the driven device along a direction that is in the plane of the path and perpendicular to the path.
62. (Previously Presented) The derive system of Claim 48, wherein the path is curved about a rotational axis and the side surfaces restrain movement of the driven element along that axis.
63. (Previously Presented) The drive system of Claim 48, wherein there are two sets of side surfaces with each set located on opposing sides of the driven device.